

**WE CLAIM:**

1. An electronic safety device, for use in a sport-specific helmet for protecting the head of a first participant of an impact-sport, comprising:
  - (a) a position sensor for sensing the position of the head of the first participant and providing a signal indicative of the sensed head position;
  - (b) a processor connectable to the position sensor for receiving the signal indicative of the sensed head position, the processor determining if the head of the first participant has been in an unsafe position for a first continuous duration of time, and producing a signal qualifying the determination; and
  - (c) an indicator connectable to the processor for receiving the signal qualifying the determination, and subsequently indicating that the head of the first participant is in an unsafe position.
2. An electronic safety device according to claim 1 further comprising an activator for switching the electronic safety device between an active mode, in which the electronic safety device operates to monitor of the head position of the first participant, and a standby mode, in which the electronic safety device does not monitor of the head position of the first participant.
3. An electronic safety device according to claim 2, wherein the activator is at least one of a toggle switch, a photo-switch and a motion detector.
4. An electronic safety device according to claim 2, wherein the activator includes an automatic turn-off system for switching the electronic safety device from the active mode to the standby mode.

- 15 -

5. An electronic safety device according to claim 1 further comprising a power connector for delivering power to at least one of the processor, the position sensor and the indicator.
6. An electronic safety device according to claim 5, wherein the  
5 power connector includes a connection to at least one of a battery housing and a solar cell.
7. An electronic safety device according to claim 1 enclosed in a protective housing.
8. An electronic safety device according to claim 1, wherein the  
10 position sensor includes at least one of a photo-interrupter, a piezo element and a hall-effect switch.
9. An electronic safety device according to claim 1, wherein the indicator includes at least one of an audible indicator, a visual indicator and a vibration indicator.
- 15 10. An electronic safety device according to claim 1, wherein the processor further determines if the head of the first participant has been in an unsafe position for a second continuous duration of time, which is longer than the first continuous duration of time, and producing a signal for the indicator to stop indicating if the head has been in the unsafe position for the second  
20 continuous duration of time.
11. A method, for warning at least one of first and second participants of an impact-sport that the head of the first participant is in an unsafe position, comprising:
  - (a) sensing an unsafe head tilt of the first participant;
  - 25 (b) determining if the sensed unsafe head tilt has been maintained for at least a first continuous duration of time; and

- 16 -

(c) indicating to one of the first and second participants that the head tilt of the first participant is unsafe.

12. A method according to claim 11 further comprising stopping the indicating after a second continuous duration of time.

5 13. A method according to claim 11 further comprising stopping the sensing, determining and indicating after a second continuous duration of time.

14. A method according to claim 13 further comprising re-starting the sensing, determining and indicating after a third continuous duration of  
10 time.

15. A method according to for operating electronic safety device, for use in a sport-specific helmet adapted to protect the head of a first participant of an impact-sport, the method comprising:

(a) determining whether or not the electronic safety device is in use; and

15 16. (b) one of switching on and maintaining an active mode for the electronic safety device, if it is determined that the electronic safety device is in use.

17. A method according to claim 15 further comprising one of switching off and maintaining a standby mode for the electronic safety device, if it is determined that the electronic safety device is not in use.

20 18. A method according to claim 15, wherein the step of determining whether or not the electronic safety device is in use includes a determining if sufficient ambient light is being received from he surrounding environment.

19. A method according to claim 15, wherein the step of determining whether or not the electronic safety device is in use includes a determining if  
25 the electronic safety device is in motion.

- 17 -

19. A sport-specific helmet, suited for use in an impact-sport, comprising:

(a) a shell providing a main cavity adapted to fit around a human head;

(b) a layer of padding lining the inside of the main cavity of the shell;

5 and

(c) an electronic safety device for determining and indicating that a head of a wearer of the helmet is in an unsafe position.

20. A sport-specific helmet according to claim 19 suited for use during one of football, hockey, lacrosse, downhill skiing, short-track speed  
10 skating, snowboarding, paint-ball and bicycle-riding.